This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A tissue replacement structure, characterized in that the structure comprises
   (a) a preformed three-dimensional tissue which can be produced by obtaining cells from a human or animal organism and culturing them in a stationary fashion as a suspension culture in cell culture vessels with hydrophobic surface and tapering bottom until a cell aggregate is formed which has differentiated cells embedded therein and has an outer region wherein cells capable of proliferation and migration are present;

   (b) (i) an autologous cell suspension which can be produced from endogenous cells, with endogenous serum being added, with no addition of growth-promoting compounds, (ii) implants or support materials and/or (iii) growth factors;

   and/or

   (c) can be obtained by exposure of the tissue according to (a) to electromagnetic fields, mechanical stimulation and/or ultrasound.

2. (Original) The tissue replacement structure according to claim 1, characterized in that the tissue replacement structure is a cartilage replacement structure, said tissue cell suspension being a cartilage cell suspension, said three-dimensional tissue being a cartilage tissue, with cartilage cells, bone cells and/or mesenchymal stem cells being obtained from said organism, and said cell aggregate containing at least 40% by volume of extracellular matrix.

3. (Currently Amended) The tissue replacement structure according to ~~claim 1 or 2~~ Claim 1, characterized in that the structure is a replacement structure for muscle tissue, bone tissue, connective tissue, skin tissue, fat tissue, nervous tissue, liver tissue, endothelial and/or epithelial tissue, particularly a cardiac smooth muscle tissue replacement structure.

4. (Original) A tissue replacement structure selected from the group comprising muscle, connective, skin, fat, nervous, liver tissues, endothelia, epithelia, and/or stem cells, characterized in that the structure can be produced by obtaining cells from a human or animal organism and culturing them in a stationary fashion as a suspension culture in cell culture vessels with hydrophobic surface and tapering bottom until a cell aggregate is formed which

has differentiated cells embedded therein and has an outer region wherein cells capable of proliferation and migration are present.

5. (Original) A method for the modification of a tissue lesion, characterized in that

    (a) a preformed three-dimensional tissue which can be produced by obtaining cells from a human or animal organism and culturing them in a stationary fashion as a suspension culture in cell culture vessels with hydrophobic surface and tapering bottom until a cell aggregate is formed which has differentiated cells embedded therein and has an outer region wherein cells capable of proliferation and migration are present;

    and

    (b) an autologous cell suspension which can be produced from endogenous cells, with addition of endogenous serum and without adding growth-promoting compounds,

    are incorporated in the tissue lesion

    and/or

    (c) exposure of the tissue according to (a) to electromagnetic fields, mechanical stimulation and/or ultrasound is effected.

6. (Original) The method according to claim 5, characterized in that the tissue lesion is a bone, cartilage and/or muscle lesion.

7. (Original) The method according to claim 6, characterized in that in said modification of a cartilage lesion, a cartilage cell suspension is produced as cell suspension, a cartilage tissue is produced as three-dimensional tissue, with cartilage cells, bone cells and/or mesenchymal stem cells being obtained from the organism, and the cell aggregate including at least 40% by volume of extracellular matrix.

8. (Original) The method according to claim 7, characterized in that incorporation of the cartilage cell suspension and cartilage tissue is followed by covering the lesion with a membrane.

9. (Original) Use of cartilage cells, muscle cells, bone cells, and/or mesenchymal stem cells, which cells are obtained from a human or animal organism and cultured in a stationary fashion as a suspension culture in cell culture vessels with hydrophobic surface and tapering bottom until a cell aggregate is formed which has differentiated cells embedded therein and has an outer region wherein cells capable of proliferation and migration are present, as a source of intracellular messenger substances, structural, scaffold and/or matrix components.

10. (Original) The use according to claim 9, characterized in that the intracellular messenger substances are growth factors and/or cytokines.

11. (Currently Amended) The use according to ~~claim 9 or 10~~ Claim 9, which use is *in vivo* or *in vitro*.

12. (Currently Amended) Use of a tissue replacement structure according to ~~any of claims 1 to 4~~ Claim 1 in the treatment of a tissue lesion.

13. (Original) The use according to claim 12, characterized in that the tissue lesion is a cartilage, bone and/or muscle lesion.

14. (Currently Amended) Use of a tissue replacement structure according to ~~any of claims 1 to 4~~ Claim 1 as an *in vitro* or *in vivo* test system, particularly in screening of active substances.

15. (Currently Amended) A kit, comprising at least one tissue replacement structure according to ~~any of claims 1 to 4~~ Claim 1, optionally together with information on combining the contents of the kit.